

REMARKS

This Amendment is in response to the Office Action dated April 18, 2007, in which claims 1-20 were rejected. Applicants respectfully request reconsideration and allowance of all pending claims in view of the above-amendments and the following remarks.

I. INFORMATION DISCLOSURE STATEMENT

The Office Action indicated the Applicants' IDS form 1449 filed on July 21, 2004 was completed and initialed by the Examiner.

However, references AF, AL and AW do not appear to be initialed. It appears that the arrows indicating consideration by the Examiner were not extended far enough in each group of references on the Form PTO-1449 to indicate whether these references were considered. Applicants assume that these references were in fact considered and respectfully request a further copy of the form with references AF, AL and AW clearly initialed.

II. SPECIFICATION

The specification was objected to because of a minor informality on page 6. With this Amendment, this paragraph of the specification was amended as suggested in the Office Action. Thus, Applicants respectfully request that the rejections of the specification be withdrawn in view of the amendment.

III. CLAIM REJECTIONS UNDER §101

Claims 1-20 were rejected under §101 as being directed to allegedly non-statutory subject matter. While Applicants respectfully disagree, independent claims 1, 7 and 16 are amended to more clearly produce a concrete, youthful and tangible result. None of these amendments have been made in view of any prior art reference or to distinguish the claims over references cited in the Office Action.

The original and the amended claims 1-20 are directed to statutory subject matter.

Per the interim guidelines, a claim satisfies §101 if it is directed to a "practical application," which can be identified in various ways, including:

- a claimed invention "transformed" an article or physical object to a different date or thing; or

- the claimed invention otherwise produces a useful, concrete and tangible result.

Claims 1, 7 and 16 each produces a structural model, which constitutes a useful, concrete and tangible result. Thus, these claims are directed to statutory subject matter.

IV. CLAIM REJECTIONS UNDER §102

Claims 1-3, 5-11 and 13-20 were rejected under §102(b) as being allegedly anticipated by U.S. Publication No. 2002/0100029 to Bowen (hereinafter, Bowen).

Bowen generally relates to a process of taking C code and splitting the code between hardware and software. For the hardware, RTL is generated, synthesized and put into an FPGA. The software is put into machine code. The hardware compiler produces “a register transfer level description for configuring configurable logic resources”. The RTL simply configures the resources, but the RTL is not, itself, configurable at compile time.

In contrast, in one non-limiting example of the present application, RTL is coded in a way to be reusable so that different configurations can be used in a single chip (where the configuration options are selectable at compile time) without modifying the RTL for each instance.

A. **Claim 1**

Claim 1 includes the steps of configuring a function block to instantiate a hardware description with options associated with different configurations of the peripheral device, and selecting between the options at compile time for each instantiation of the peripheral device without modification to the hardware description.

The Office Action refers to Bowen paragraphs [0009], [0031] and [0036]. As described in paragraph [0009], a function written in a C programming language is received and compiled into processor instructions, which are in turn used to generate hardware configuration information. The hardware configuration information is utilized to configure an FPGA.

Paragraph [0036] states, “a hardware compiler for producing from those parts of the specification partitioned to hardware a register transfer level description for configuring configurable logic resources.”

Therefore, the register transfer level description configures the configurable logic resources according to the input provided to the hardware compiler. The input provided in the hardware compiler contains a pre-defined configuration that is used for configuring the configurable logic resources, such as during synthesis at step 214 in Figure 2. The input itself is not configurable at compile time. Rather it is predetermined by the C code. Bowen does not disclose that the input provided to the hardware compiler comprises options selectable at compile time for each of multiple instantiations of a peripheral device within a single chip.

Paragraph [0031] simply states that the functionality is split between hardware and software. The hardware and/or machine is customized in accordance with the partitioning of the functionality. Bowen does not disclose configuring a function block to instantiate the hardware description with options associated with different configurations of the peripheral device, wherein the options are selectable at compile times for each instantiation of the peripheral device. Further, Bowen does not disclose that such options are selected without modification to the hardware description.

Independent claim 1 is therefore not anticipated by Bowen.

B. Claim 7

In respect to independent claim 7, the Office Action refers to paragraphs [0009], [0031] and [0214] of Bowen

As discussed above, Bowen does not disclose configuring a function block to instantiate a hardware description with options at compile time and instantiating multiple instances of the peripheral device on the integrated circuit by programmatically selecting between the options at compile time for each instantiation of the peripheral device.

Paragraph [0241] simply states that the OOP components (reusable software modules) are accessed at run-time.

Claim 7 and its respective dependent claims are therefore not anticipated by Bowen for similar reasons as were discussed above with respect to claim 1.

C. Claim 16

Similarly, independent claim 16 and its dependent claims are not anticipated by Bowen for the similar reasons as were discussed above with respect to claims 1 and 7.

In addition, one or more dependent claims add further elements that are neither taught nor suggested by Bowen.

V. CLAIM REJECTIONS UNDER §103

Claim 4 and 12 were rejected under §103 as being allegedly being unpatentable over Bowen in view of Yu et al., U.S. Patent No. 6,829,754. The combination of Bowen and Yu et al. does not teach or make obvious the inventions recited in claims 4 and 12 for similar reasons as discussed above with respect to the independent claims.

Accordingly, Applicants respectfully request that the objections of these claims under §103 be withdrawn.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 12-2252.

Respectfully submitted,

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